West Nile Virus and Other Mosquito-borne Disease Report

August 12 – August 18, 2018 (Report Week 33)

West Nile Virus

Canada

Human

During surveillance week 33, ending on August 18, 2018, the Public Health Agency of Canada was informed of three additional cases of West Nile virus (WNV): one in Alberta, one in Ontario and one in Québec.

As of week 33, a total of twelve clinical cases of WNV have been reported by the following four provinces: Alberta (1), Manitoba (3), Ontario (6), and Québec (2). Of these, five (42%) have been classified as WNV neurological syndrome, two (16%) as WNV non-neurological and five (42%) are unspecified. No deaths have been reported. In addition, six WNV asymptomatic infections have been reported: three in Manitoba, two in Ontario and one in Québec.

Mosquito

To date (week 33), the PHAC has been notified of 11,601 mosquito pools tested for WNV: Saskatchewan (673), Manitoba (1,728), Ontario (8,196) and Québec (1,004). Of these, a total of 389 (3.35%) have tested positive for WNV: forty-four in Saskatchewan, 152 in Manitoba, 180 in Ontario, and thirteen in Québec.

Wild Bird

To date (week 33), forty-eight out of eighty dead wild birds have tested positive for WNV by the Canadian Wildlife Health Cooperative (CWHC) and Manitoba Agriculture: two in Saskatchewan, thirteen in Manitoba, nineteen in Ontario, and fourteen in Québec. In addition, four live birds in Québec have been tested positive for WNV by the University of Montréal.

Equine

The Canadian Food Inspection Agency (CFIA) has reported seventeen horses with WNV infection in the following three provinces: Alberta (7), Saskatchewan (7), and Manitoba (3).

United States and U.S. territories

As of August 21st, 231 human cases of WNV have been reported to the US Centers for Disease Control and Prevention (CDC). Of these, 133 (58%) were classified as neuroinvasive disease and ninety-eight (42%) as non-neuroinvasive disease. Eight deaths have been reported. In addition, eighty-nine presumptive viremic blood donors have been identified.

Europe and Neighboring Countries

As of August 16th, 401 human cases of West Nile fever have been reported to the European Centre for Disease Prevention and Control. Twenty deaths have been reported. (Weekly updates: 2018 West Nile fever transmission season)

Other Mosquito-borne Diseases in Canada

Eastern Equine Encephalitis virus

The CFIA has reported four horses testing positive for Eastern Equine Encephalitis virus (EEEV) in Ontario. No human cases of EEEV have been reported to the PHAC since the 2018 season.

California Serogroup virus

Since May 1, 2018, fifteen human cases/exposures of California serogroup virus have been reported by the National Microbiology Laboratory in the following five provinces: Alberta (1), Saskatchewan (2), Ontario (4), Quebec (7) and New Brunswick (1). Of the 15 cases, nine were further typed as Jamestown Canyon virus, and two as Snowshoe hare virus.

FIGURE 1: Geographic distribution of WNV human clinical cases and asymptomatic infections in Canada, 2018

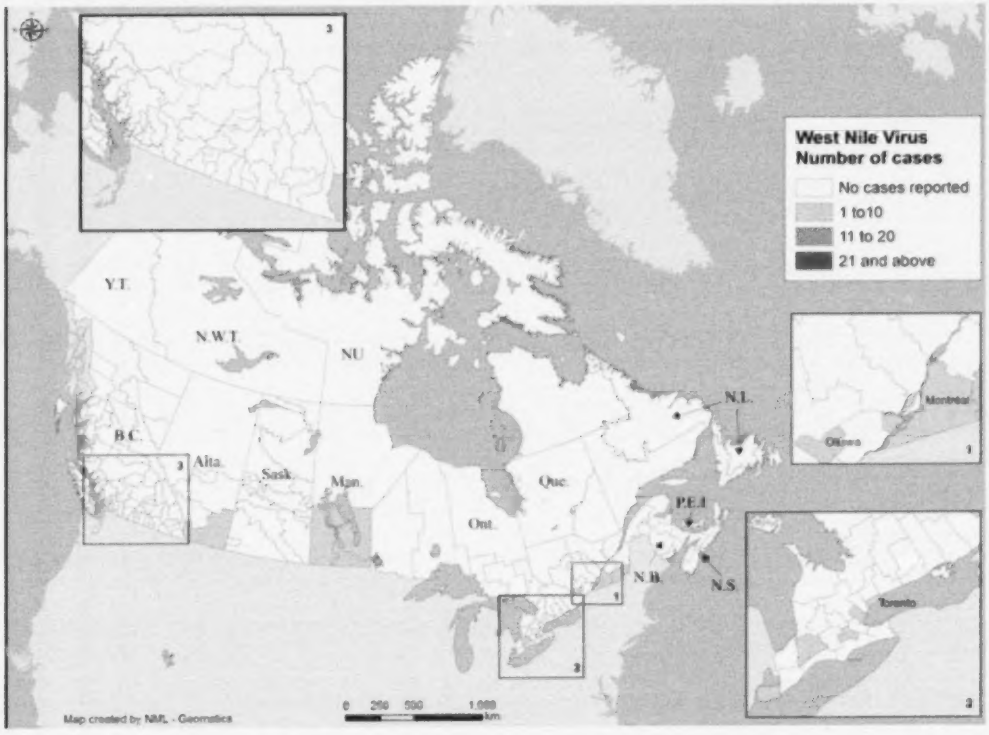
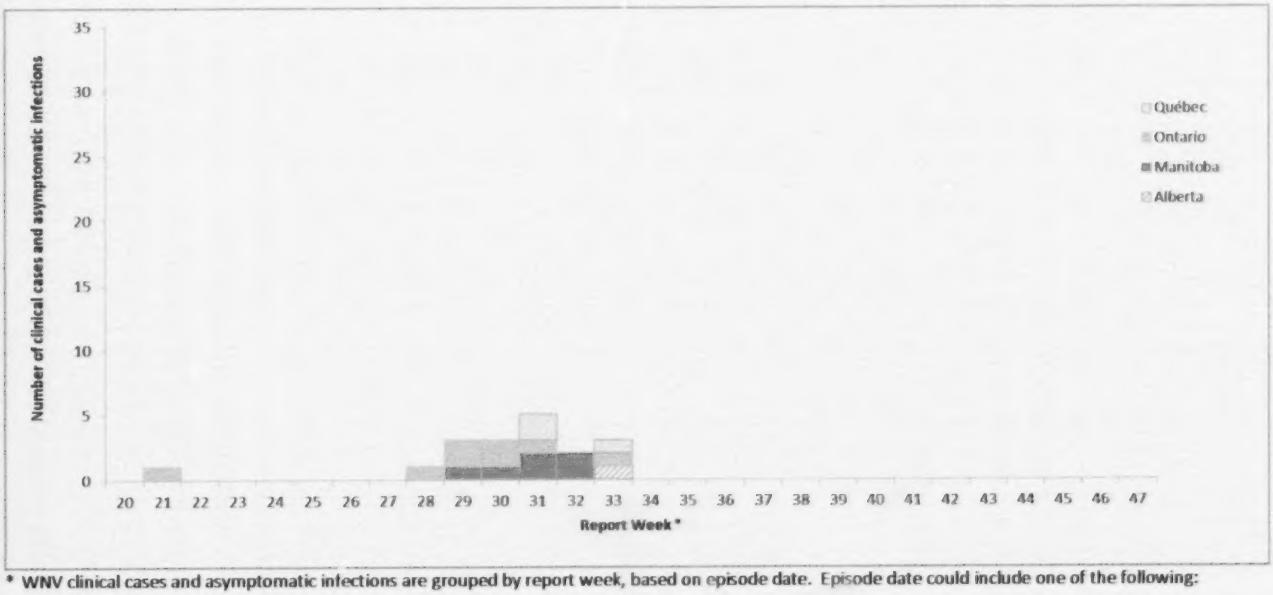
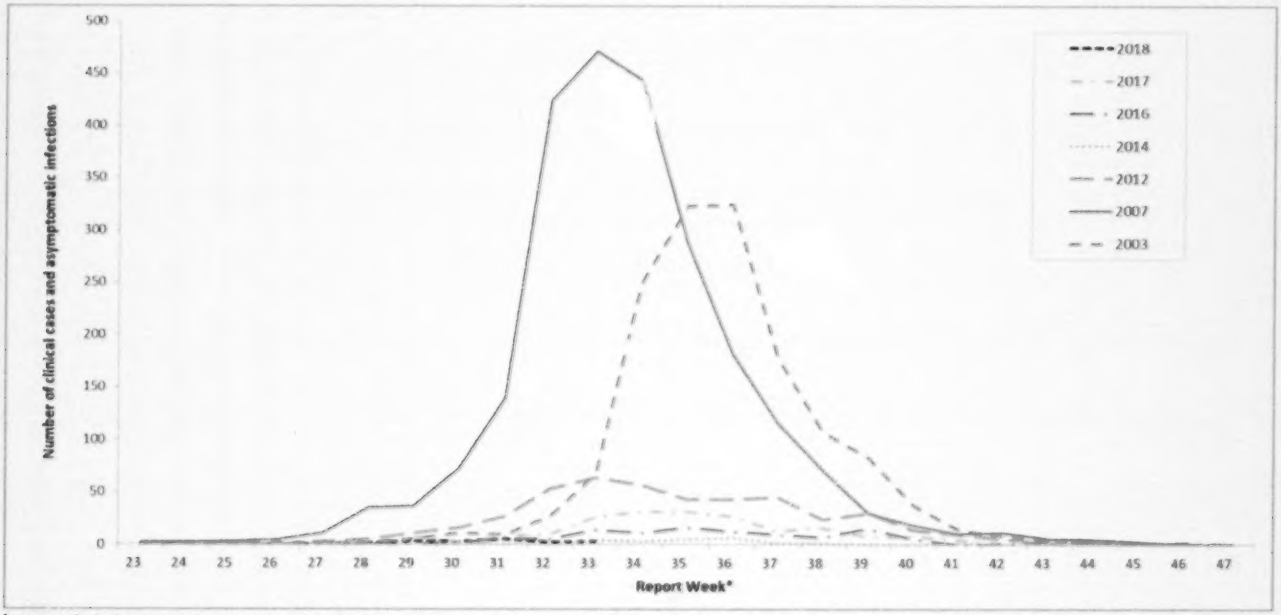


FIGURE 2: WNV human clinical cases and asymptomatic infections in Canada by report week, 2018



* WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

FIGURE 3: WNV human clinical cases and asymptomatic infections for selected years by report week, in Canada



* WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

TABLE 1: WNV human clinical cases and asymptomatic infections in Canada by report week* and year to date, 2018

Province/Territory	Clinical Cases				Total travel-related cases[2]	Total asymptomatic infections[3]
	Neurological syndrome	Non-neurological syndrome	Unclassified/ Unspecified	Total clinical cases[1]		
Report week 33: August 12 to August 18, 2018						
British Columbia	0	0	0	0	0	0
Alberta	0	0	1	1	0	0
Saskatchewan[4]	0	-	-	0	-	-
Manitoba	0	0	0	0	0	0
Ontario	0	0	1	1	0	0
Québec	0	0	0	1	0	1
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	**0**	**0**	**2**	**2**	**0**	**1**
Year to date: January 1 to August 18, 2018						
British Columbia	0	0	0	0	0	0
Alberta	0	0	1	1	0	0
Saskatchewan[4]	0	-	-	0	-	-
Manitoba	1	1	1	3	0	3
Ontario	2	1	3	6	2	2
Québec	2	0	0	2	0	1
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	**5**	**2**	**5**	**12**	**2**	**6**

* WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

[1] Total clinical cases are the sum of confirmed and probable: WNV neurological and non-neurological syndromes, along with any unclassified or unspecified cases.

[2] Likely related to travel outside the Province/Territory. These cases are included in either the total clinical cases or WNV asymptomatic infections.

[3] Satisfies WNV diagnostic test criteria in the absence of clinical criteria. This category could include asymptomatic blood donors whose blood is screened using a nucleic acid amplification test, by blood operators (i.e. Canadian Blood Services or Hema-Québec) and is subsequently brought to the attention of public health officials. Blood operators in Canada perform a supplementary WNV specific nucleic acid amplification test following any positive donor screen test result.

[4] Saskatchewan provides counts of WNV neurological syndrome cases only.

TABLE 2: WNV mosquito surveillance* in Canada, as of August 18, 2018

Province	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Saskatchewan	44	673	6.54
Manitoba	152	1,728	8.80
Ontario	180	8,196	2.20
Québec	13	1,004	1.29
Total	**389**	**11,601**	**3.35**

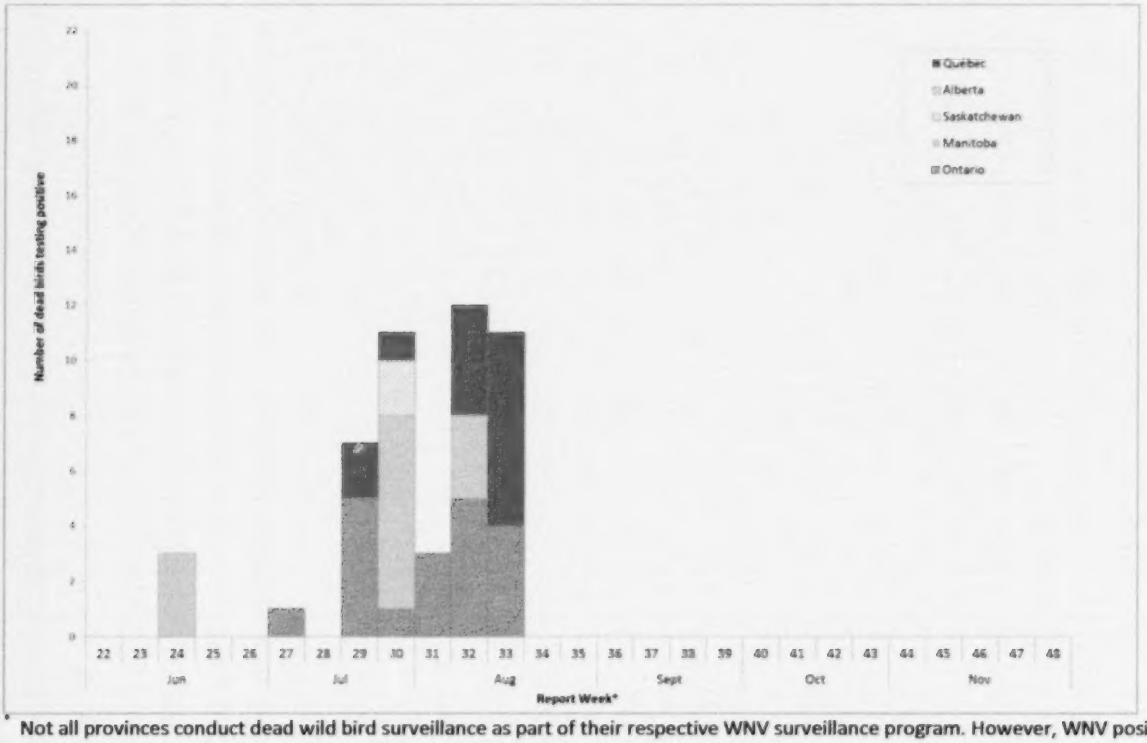
*Mosquito surveillance data is reported by the following four provinces: Québec, Ontario, Manitoba, and Saskatchewan.

TABLE 3: Total number of WNV mosquito pools tested by report week and by province/ territory, 2018‡

‡ Detailed West Nile Virus mosquito surveillance data can be accessed through provincial/territorial websites.

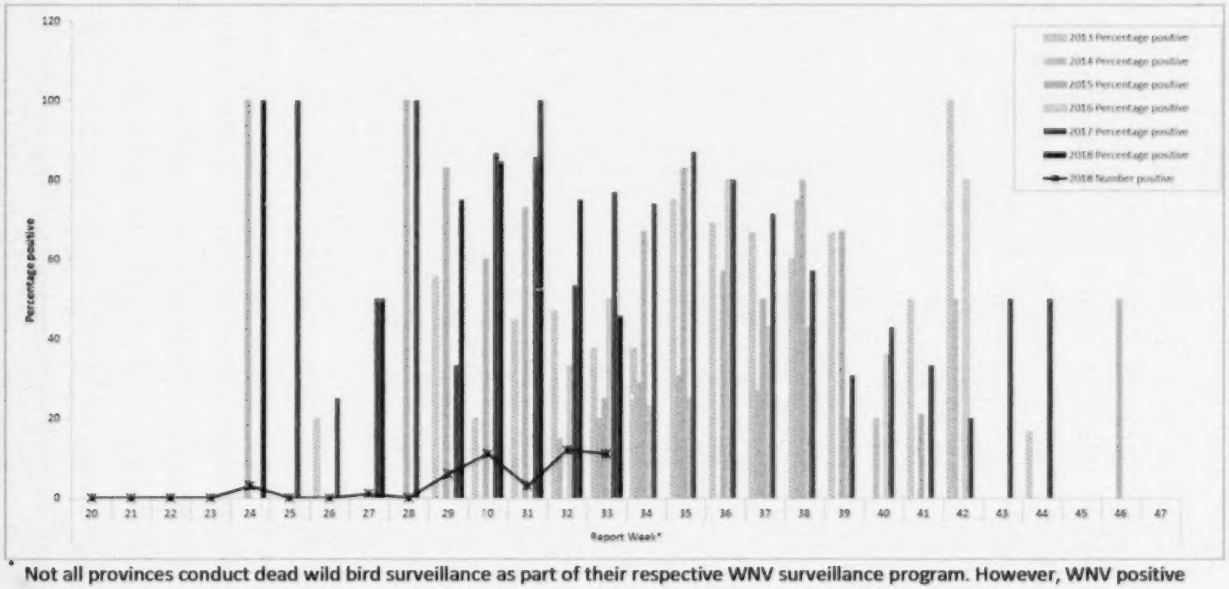
Province	Report Week												
	22	23	24	25	26	27	28	29	30	31	32	33	Total
Saskatchewan	0	15	18	17	45	55	90	104	96	106	62	65	**673**
Manitoba	15	39	89	107	124	122	241	240	247	169	172	163	**1,728**
Ontario	0	0	0	0	842	955	1,024	963	1,073	1,059	1,156	1,124	**8,196**
Québec	0	69	77	105	105	108	109	109	110	99	113	-	**1,004**
Total	15	123	184	229	1,116	1,240	1,464	1,416	1,526	1,433	1,503	1,352	**11,601**

FIGURE 4: Number of WNV positive dead wild birds in Canada by report week, 2018*



* Not all provinces conduct dead wild bird surveillance as part of their respective WNV surveillance program. However, WNV positive dead wild birds may be identified through the National Wildlife Disease Surveillance Program, CWHC or some provinces.

FIGURE 5: Percentage of dead wild birds positive for WNV by report week in 2012-2018 and number of dead birds positive in Canada by report week, 2018*



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